➤ **Solve the problems.**

1. Baxter drives a delivery truck. He travels 399 km in 7 h. At what speed does Baxter drive, in kilometers per hour? Show your work.

$\frac{399\text{ km}}{7\text{ hr}} \div 7 = \frac{57\text{ km}}{1\text{ hr}}$

SOLUTION Baxter drives 57 km per hour

2. Donovan designed a charm for a necklace. The charm weighs 2 oz. The chain Donovan has can support a charm that weighs up to 50 g. Can the chain support Donovan's charm? Show your work. (1 g is about 0.0353 oz)

2 oz = _____ g

$2 \div 0.0353 \approx 56.65$

↓ size of charm

50 g = _____ oz

$50 \cdot 0.0353 = 1.765$

↓ amount that can be supported

SOLUTION No, the chain can't support the charm

3. A catering company sells an 8 lb container of food for $54. Use a model to write a rate for this situation. What does this rate mean? Show your work.

① $\frac{\$54}{8\text{ lb}} \div 8 = \frac{\$6.75}{1\text{ lb}}$

② $\frac{8\text{ lb}}{\$54} \div 54 = \frac{0.148...}{\$1}$

SOLUTION It is $6.75 for every 1 pound. You get about 0.15 lb for $1

4 Roberto makes dumplings. Today, it takes him 54 min to make 18 dumplings. He plans to make dumplings for 66 min tomorrow and to work at the same rate. How many dumplings will Roberto make tomorrow?

18 dum / 54 min = 2 dum / 6 min = 22 dum / 66 min (÷9, ×11)

A 3

B 15

C 22

D 198

5 Ashley flies a drone 2,640 ft in 5 s. At this rate, how many miles does the drone fly in a minute? Show your work. (1 mi = 5,280 ft)

2640 ft / 5 sec × 12 = 31680 ft / 60 sec = 1 min

31 680 ft = _____ mi

31680 ÷ 5280 = 6

The drone flies 6 miles in 1 min.

6 At a fabric store, metallic ribbon costs $16 for 4 ft. White ribbon is priced at 3 ft per dollar. Use rates to show which kind of ribbon is more expensive per foot. Show your work.

Metallic

$\frac{\$16}{4\text{ ft}} = \frac{\$4}{1\text{ ft}}$

White

$\frac{\$1}{3\text{ ft}} = \frac{0.\overline{3}}{1\text{ ft}} = \frac{\$0.33}{1\text{ ft}}$

SOLUTION The metallic ribbon is more expensive

7 Ophelia buys a package of paper napkins. The paper napkins in the package weigh 580 g. The label on the package says *Made with 35% recycled paper.* How many grams of recycled paper are used to make Ophelia's paper napkins? Show your work.

35% of 580 g

0.35 · 580

203

203 grams are recycled paper

8 Francis buys a package of 450 plastic forks. He uses 315 of the plastic forks. What percent of the plastic forks did Francis use? Show your work.

$\frac{315}{450} \div \frac{45}{45} = \frac{7}{10} = \frac{70}{100} = 70\%$

SOLUTION Francis used 70% of the forks

9 Richard and Nestor make paintings. Richard makes 40 paintings in 28 days. Nestor makes 45 paintings in 5 weeks. Who makes paintings at a faster rate? Show your work.

Richard

28 days = 4 weeks

$\frac{40 \text{ paint}}{4 \text{ weeks}} = \frac{10 \text{ paint}}{1 \text{ week}}$

Nestor

$\frac{45 \text{ paint}}{5 \text{ weeks}} = \frac{9 \text{ paint}}{1 \text{ week}}$

SOLUTION Richard paints at a faster rate

10 A soccer club has 560 members. So far, $\frac{7}{8}$ of the members have helped clean up their practice park. What percent of the members have helped clean up the park? How many members have helped clean up the park? Show your work.

$\frac{7}{8} \overset{\times 70}{=} \frac{x}{560}$ (×70)

490 members

$\frac{490}{560} = \frac{8.75}{10} = \frac{87.5}{100}$ (÷56)

SOLUTION 87.5% of the members helped clean up. That is 490 members out of the 560 members.

11 Mr. Hildebrant spends $76 in a gift shop. This is 80% of the money he planned to spend in the gift shop. How much money did Mr. Hildebrant plan to spend in the gift shop? Show your work.

$\frac{80}{100} = \frac{76}{x}$

$\frac{20}{25}$

$\frac{4}{5} \xrightarrow{\times 19} \frac{76}{95}$

SOLUTION Mr. Hildebrant plans to spend $95

12 Monica is a professional musician who practices clarinet for the same amount of time every day. After she practices clarinet for 45 min on Wednesday, she has finished 18% of her daily clarinet practice. How many more minutes does Monica practice clarinet on Wednesday? Show your work.

$\frac{18}{100} = \frac{45}{x}$

$\frac{9}{50} \xrightarrow{\times 5} \frac{45}{250}$

$250 - 45 = 205$

SOLUTION Monica practices for 205 more minutes

13 Victor makes cinnamon waffles. His recipe calls for 3 tsp of cinnamon per 8 tsp of sugar. How many teaspoons of sugar are needed for 96 tsp of cinnamon?

A 24

B 36

C 124

D 256

$\frac{3}{8} \overset{\times 32}{=} \frac{96}{256}$

14 An art gallery sells 1,400 paintings. The catalog states that 70% of the paintings are by local painters. How many of these paintings are by local painters?

A 20

B 98

C 420

D 980

70% of 1400
.70 · 1400
980

15 A machine holds a spool with 32 yd of ribbon. The machine uses ribbon at a rate of 4 ft per min. How long does it take the machine to use all the ribbon from the spool? Show your work. (1 yd = 3 ft)

32yd = ____ ft

32 · 3 = 96 ft

96 ÷ 4 = 24

SOLUTION It will take 24 minutes

16 What percent of 175 is 112? Write your answer in the blanks

$\frac{112}{175} = \frac{x}{100}$

11200 ÷ 175
64

= 64 %